

Improved Structure Yarn Cylinder

BACKGROUND OF THE INVENTION

1) FIELD OF THE INVENTION

The invention herein relates to yarn spools and bobbins, specifically an
5 improved structure yarn cylinder that further enhances the utility of the yarn
cylinder in "Yarn Cylinder with Trench" (Taiwan P/N 201810).

DESCRIPTION OF THE PRIOR ART

The patent "Yarn Cylinder with Trench" (Taiwan P/N 201810), as indicated
in FIG. 1 and FIG. 2, a first generation yarn cylinder structure innovated by the
10 applicant of the invention herein, is of one-piece plastic construction and since
plastic is moldable, a trench 1 of an appropriate depth and width is formed around
the circumferential surface of the cylinder and, furthermore, enmeshable full-
distance or half-distance teeth 10 or hemihedral teeth capable of contacting another
surface are disposed inside the trench 1, thereby enabling the trench 1 to snag the
15 yarn, or the pairs of enmeshed teeth 10 or the teeth 10 contacting another surface
firmly secure the yarn such that when the yarn is wound around it, this ensures the
prevention of yarn loosening and slippage. As a result, the said structure has been
positively evaluated and acclaimed by the industry and, furthermore, highly

recommended by respected manufacturers. However, the original invention is still far from perfect and in the spirit of constant improvement, the yarn cylinder structure was enhanced to provide for further progressiveness and utility through additional refinement, which is the primary objective of the present invention.

5 SUMMARY OF THE INVENTION

Therefore, the primary objective of the invention herein is to provide an improved structure yarn cylinder in which the circumferential length of the trench in "Yarn Cylinder with Trench" (Taiwan P/N 201810) is extended and, furthermore, a plurality of teeth are disposed in the trench at differing angular orientations to
10 thereby effectively increase yarn snagging capacity and facilitate ease of securing.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a cross-sectional drawing of the "Yarn Cylinder with Trench" (Taiwan P/N 201810) as viewed from a vertical perspective.

Figure 2 is a cross-sectional drawing of the "Yarn Cylinder with Trench"
15 (Taiwan P/N 201810) securing yarn, as viewed from a horizontal perspective.

Figure 3 is a cross-sectional drawing of the invention herein, as viewed from a vertical perspective.

Figure 4 is a cross-sectional drawing of the invention herein, as viewed

from a horizontal perspective.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 3 and FIG. 4, the vertical and horizontal cross-sectional drawings of the invention herein when yarn is secured. As conveyed by the
5 drawings, the invention herein improves the circumferential length of the trench 1 in "Yarn Cylinder with Trench" (Taiwan P/N 201810) and, furthermore, postures the teeth 10 in the trench 1 at differing angular orientations; specifically, the teeth 10 are disposed at varying inclinations along the two lateral walls of the trench 10 and, furthermore, the teeth 10 are in a crisscross formation on the said two lateral
10 walls; as such, the longer circumferential length of the trench 10 and the contrastive skewing of the teeth 10 effectively increases yarn end snagging capacity.

As indicated in FIG. 4, when yarn is wound in the trench 1, it is caught on plurality of teeth 10 arrayed in the crisscross formation, the many differing angles
15 of the plurality of teeth 10 in the crisscross formation situating the teeth 10 for interlocking utilization such that the yarn cylinder trench 1 not only better accommodates and binds the end of the yarn, but at the same time the interlocking characteristics secures the yarn more effectively.

In summation of the forgoing section, since the small but significant

improvement of the structure of the invention herein further perfects and, furthermore, enhances the functionality of the prior art structure and thus constitutes a meaningful and original improvement and, furthermore, the present invention complies with national patent laws regarding patent applications, patent
5 rights, the encouragement of innovation, and new patent application requirements, the invention herein is submitted for review and the granting of the commensurate patent rights.